

Atty Docket No.: 2000-0484B/N1085-90119

REMARKS

1. Claims 25-39 are pending and stand rejected in the application. This paper amends claims 30 and 33.

Reconsideration of this application is respectfully requested.

2. The amendment filed on August 12, 2005 stands objected to under 35 U.S.C. 132(a) because it allegedly introduces new matter into the disclosure. The added material which is allegedly not supported by the original disclosure is the replacement of "silicon semiconductor substrate" with "a semiconductor substrate" in the abstract.

This objection is respectfully traversed. Support for "a semiconductor substrate" can be found, for example, on page 5, lines 10-11 of the originally filed specification (Description Of The Preferred Embodiments section) which states:

There is shown a semiconductor substrate 10, preferably composed of monocrystalline silicon. (*Emphasis added.*)

As can be seen, the specification supports the subject matter "a semiconductor substrate" and does not limit the semiconductor substrate 10 to only monocrystalline silicon.

In view of the foregoing, withdrawal of this objection is respectfully requested.

3. Claims 25-39 stand rejected under 35 U.S.C. 112, first paragraph, as allegedly failing to comply with the written description requirement. Claims 25-39 also stand rejected under 35 U.S.C. 112, first paragraph, as allegedly failing to provide enablement for "a semiconductor substrate".

In support of the first rejection regarding compliance with the written description requirement, the examiner essentially asserts that the deletion of the term "silicon" from the recitation "a silicon semiconductor substrate" enters new matter into claim 25. Further, the examiner asserts that the phrase "said first slurry has a selectivity of oxide to the nitride of greater than 3" enters new matter into claim 30. Still further, the examiner asserts that the phrase "said second slurry has a selectivity of oxide to polysilicon of greater than 3" enters new matter into claim 31. In addition, the examiner asserts that the

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phrase "forming a buffer layer over a semiconductor substrate" enters new matter into claim 33.

Support for the recitation of "a semiconductor substrate" in claim 25 can be found, for example, on page 5, lines 10-11 of the originally filed specification (Description Of The Preferred Embodiments section) which states:

There is shown a semiconductor substrate 10, preferably composed of monocrystalline silicon. (*Emphasis added.*)

As can be seen from the quoted language above, the specification clearly supports a claim calling for "a semiconductor substrate" and does not limit the claims to a silicon semiconductor substrate. Accordingly, claim 25 complies with the written description requirement under 35 U.S.C. 112, first paragraph.

Regarding claim 30, the last paragraph on page 8 of the specification has been amended to correct an evident error in the description of the low-selectivity slurry described therein. In particular, the description on page 8 stated that the low-selectivity slurry "has a selectivity of oxide with respect to nitride of greater than 3." It is evident that the term "greater" in the context of the term "low-selectivity" is incorrect, therefore, "greater" has been changed to -- lower --. Claim 30 has been similarly amended to recite "said first slurry has a selectivity of oxide to the nitride of lower than 3". Support for these amendments can be found in the second full paragraph on page 7, which describes a low-selectivity slurry which is the same as the low-selectivity slurry intended to be described on page 8. Specifically, the second full paragraph on page 7 describes:

In a second step, CMP is continued with a low-defect and low-selectivity slurry. This second slurry has a selectivity of oxide to nitride of lower than 3. (*Emphasis added.*)

Accordingly, it is believed that claim 30, as amended, now complies with the written description requirement under 35 U.S.C. 112, first paragraph.

Regarding claim 31, support for "said second slurry has a selectivity of oxide to polysilicon of greater than 3" can be found in the second full paragraph on page 9 which states:

In a second step, CMP is continued with a high-selectivity, high-planarity slurry. This second slurry has a selectivity

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of oxide to nitride of greater than 10 and oxide to polysilicon of greater than 3. (Emphasis added.)

Accordingly, claim 31 complies with the written description requirement under 35 U.S.C. 112, first paragraph.

Regarding claim 33, support for "forming a buffer layer over a semiconductor substrate" in claim 33, can be found, for example, in originally filed FIG. 1 which shows buffer layer 14 formed over the semiconductor substrate 10. Accordingly, claim 33 complies with the written description requirement under 35 U.S.C. 112, first paragraph.

The rejection of claims 25-39 under 35 U.S.C. 112, first paragraph, for failing to provide enablement for "a semiconductor substrate" is improper in the context of the examiner's supporting comment: "The scope of the claim goes beyond the scope justified by the description of the invention in the specification and drawings." Enablement has nothing to do with claim scope. The question regarding enablement is whether the disclosure, when filed, contained sufficient information regarding the subject matter of the claims as to enable one skilled in the pertinent art to make and use the claimed invention without undue experimentation.

Clearly, the originally filed disclosure of the present application is sufficient to enable one of ordinary skill in the art to make and use the presently claimed invention, without undue experimentation. The originally filed specification teaches a preferred embodiment of the method which comprises a step that involves the use of a semiconductor substrate. The originally filed specification also teaches that this semiconductor substrate is preferably composed of monocrystalline silicon. Thus, more than enough information is provided in the originally filed specification about the semiconductor substrate to enable one of ordinary skill in the art to make and use the claimed invention, without undue experimentation.

With respect to the scope of the claims, the originally filed specification does not expressly limit the semiconductor substrate to only monocrystalline silicon, as asserted by the examiner. Moreover, there is no requirement in the law that would have made it necessary for the applicant to list every possible type of semiconductor substrate in the specification in order to claim "a semiconductor substrate", as apparently asserted by the examiner.

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In view of the foregoing, withdrawal of these rejections is respectfully requested.

4. Claims 33-39 stand rejected under 35 U.S.C. 112, first paragraph, as allegedly failing to provide enablement for "a buffer layer" and for a "mask layer." In support thereof the examiner states: "The scope of the claims go beyond the scope justified by the description of the invention in the specification and drawings."

This rejection is respectfully traversed. First, enablement has nothing to do with claim scope. The question regarding enablement is whether the disclosure, when filed, contained sufficient information regarding the subject matter of the claims as to enable one skilled in the pertinent art to make and use the claimed invention without undue experimentation.

Clearly, the originally filed disclosure of the present application is sufficient to enable one of ordinary skill in the art to make and use the invention of claims 33-39, without undue experimentation. The originally filed specification teaches that in preferred embodiments of the method, the buffer layer is polysilicon and that the mask layer is nitride. The originally filed specification also teaches how thick to make these layers and the preferred process for making these layers. Thus, more than enough information is provided in the originally filed specification about the buffer and mask layers to enable one of ordinary skill in the art to make and use the claimed invention, without undue experimentation.

With respect to the scope of the claims, the originally filed specification does not expressly limit the buffer layer to only polysilicon or the mask layer to only nitride. Indeed, the description section, which starts on page 5 of the originally filed disclosure, is entitled "DESCRIPTION OF PREFERRED EMBODIMENTS" and the last paragraph of this section states:

While the invention has been particularly shown and described with reference to the preferred embodiments thereof, it will be understood by those skilled in the art that various changes in form and details may be made without departing from the spirit and scope of the invention.

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Further, there is no requirement in the law that would have made it necessary to list every possible type of buffer layer and mask layer in the specification in order to claim "a buffer layer" and/or "a mask layer", as apparently asserted by the examiner.

In view of the foregoing, withdrawal of this rejection is respectfully requested.

5. Claims 25-39 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite. It is not clear to the examiner what differentiates a "high" selectivity slurry from a "low" selectivity slurry, when claims 25, 30, and 31 are considered together. Claim 33 is problematic for the examiner because it recites "high" selectivity slurry and "low" selectivity slurry, and allegedly, there is no basis for comparison of same because only polysilicon is defined in the specification. This rejection is respectfully traversed.

Regarding claims 25-32 and 39, claim 30 has been amended to recite "said first slurry has a selectivity of oxide to the nitride of lower than 3". Support for this amendment can be found in the second full paragraph on page 7 which states:

In a second step, CMP is continued with a low-defect and low selectivity slurry. This second slurry has a selectivity of oxide to nitride of lower than 3. (*Emphasis added.*)

Accordingly, it is believed that claims 25-32 and 39 now comply with 35 U.S.C. 112, second paragraph.

Regarding claims 33-38, claim 33 has been amended to recite "...a low-selectivity slurry having a low selectivity of the oxide layer to the mask layer...a high-selectivity slurry having a high selectivity of the oxide layer to the buffer layer...".

The fact that claim language, including terms of degree, may not be precise, does not automatically render the claim indefinite under 35 U.S.C. 112, second paragraph. *Seattle Box Co. v. Industrial Crating & Packing, Inc.*, 731 F.2d 818, 221 USPQ 568 (Fed. Cir. 1984). The test is whether one of ordinary skill in the art would be apprised of the scope of the claim when read in light of the specification.

The specification teaches that a "low" selectivity slurry is one that has a selectivity of selectivity of oxide to nitride (an example of the mask layer) lower than 3, and that a high selectivity slurry is one that has a selectivity of oxide to polysilicon (an example of the buffer layer) of greater than 3. Thus, it is respectfully submitted that one

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of ordinary skill in the art would be apprised of the scope of the claim 33. Accordingly, it is believed that claims 33-38 now comply with 35 U.S.C. 112, second paragraph.

In view of the foregoing, withdrawal of this rejection is respectfully requested.

6. Favorable reconsideration of this application is respectfully requested as it is believed that all outstanding issues have been addressed herein and, further, that claims 25-39 are in condition for allowance. Should there be any questions or matters whose resolution may be advanced by a telephone call, the examiner is cordially invited to contact applicants' undersigned attorney at his number listed below.

7. The Commissioner is hereby authorized to charge payment of any filing fees required under 37 CFR 1.16 and any patent application processing fees under 37 CFR 1.17, which are associated with this communication, or credit any overpayment to Deposit Account No. 50-2061.

Respectfully submitted,



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